

REMARKS

Claims 1-34 are pending in the present application.

A. Objection to the Drawings

As respectfully set forth above, Figure 6 has been added to illustrate a flowchart showing converting the color image to a luminance-chrominance color space; performing a wavelet transformation of the luminance channel; replacing a predetermined number of sub-bands by scaled versions of the chrominance channels; and inverting the transformation to generate artificial textures proportional to the original colors of the color image. No new matter has been added with respect to new Figure 6.

Also, the Specification has been amended to provide a brief description of Figures 3-6. No new matter has been added with respect to the brief description of Figures 3-6.

In view of these amendments, the drawings show every feature of the claimed invention. Moreover, the specification includes a description of each drawing. Therefore, the drawings fully comply with 37 C.F.R. 1.83(a) and 37 C.F.R. 1.84(p)(5).

Accordingly, the Examiner is respectfully requested to reconsider and withdraw the current objections to the drawings.

B. Rejection under 35 U.S.C. §101

Claims 1-34 have been rejected under 35 U.S.C. §101 for being directed to non-statutory subject matter. This rejection under 35 U.S.C. §101 is respectfully traversed.

1. Independent Claim 1

As set forth above, amended independent claim 1 recites a method for converting color images to textured monochrome images such that regions with similar luminance but different chrominance appear different when converted to black-and-white. The claimed method converts the color image to a luminance-chrominance color space; performs a wavelet transformation of the luminance channel; replaces a predetermined number of sub-bands by scaled versions of the chrominance channels; and inverts the transformation to create a black-and-white image having artificial textures proportional to colors in the color image.

To support the rejection under 35 U.S.C. §101, the Examiner alleges that independent claim 1 lacks the recitation of a useful, concrete, and tangible result. Contrary to the Examiner's allegation, independent claim 1 recites the creation of a black-and-white image having artificial textures proportional to colors in the color image.

It is respectfully submitted that a black-and-white image having artificial textures proportional to colors in the color image is a useful, concrete, and tangible result. Therefore, amended independent claim 1 is directed to statutory subject matter as required under 35 U.S.C. §101.

2. Independent Claim 11

As set forth above, amended independent claim 11 recites a method for recovering a color image from a black-and-white image embedded with chrominance information reproduced from the color image. The claimed method obtains electronic image data of the black-and-white image embedded with chrominance information applying a first transformation to the electronic image data; calculates wavelets from the first transformed data; recovers chrominance information from the calculated wavelets; recovers luminance information from the calculated wavelets; and combines the recovered chrominance and luminance information to create a color image corresponding to the black-and-white image embedded with chrominance information.

To support the rejection under 35 U.S.C. §101, the Examiner alleges that independent claim 11 lacks the recitation of a useful, concrete, and tangible result. Contrary to the Examiner's allegation, independent claim 11 recites the creation of a color image corresponding to a black-and-white image embedded with chrominance information.

It is respectfully submitted that a color image corresponding to a black-and-white image embedded with chrominance information is a useful, concrete, and tangible result. Therefore, amended independent claim 11 is directed to statutory subject matter as required under 35 U.S.C. §101.

3. Independent Claim 23

As set forth above, amended independent claim 23 recites a system for recovering a color image from a black-and-white image reproduced from the color image. The system includes a processor and a scanner for obtaining electronic image data of the black-and-white image. The processor applies a first transformation to the electronic image data; calculates wavelets from the first transformed data; recovers chrominance information from the calculated wavelets; recovers luminance information from the calculated wavelets; and combines the recovered chrominance and luminance information to create a color image corresponding to the black-and-white image embedded with chrominance information.

To support the rejection under 35 U.S.C. §101, the Examiner alleges that independent claim 23 lacks the recitation of a useful, concrete, and tangible result. Contrary to the Examiner's allegation, independent claim 23 recites the creation of a color image corresponding to a black-and-white image embedded with chrominance information.

It is respectfully submitted that a color image corresponding to a black-and-white image embedded with chrominance information is a useful, concrete, and tangible result. Therefore, amended independent claim 23 is directed to statutory subject matter as required under 35 U.S.C. §101.

4. Dependent Claims

With respect to dependent claims 2-10, 12-22, and 24-34, the Applicants, for the sake of brevity, will not address the reasons supporting patentability for these individual dependent claims, as these claims depend directly or indirectly from allowable independent claims 1, 11, and 23. The Applicants reserve the right to address the patentability of these dependent claims at a later time, should it be necessary.

In summary, independent claims 1, 11, and 23 recite a useful, concrete, and tangible result. More specifically, independent claim 1 recites the creation of a black-and-white image (a useful, concrete, and tangible result) having artificial textures proportional to colors in the color image. Also, independent claim 11 recites the creation of a color image (a useful, concrete, and tangible result) corresponding to a black-and-white image embedded with chrominance information. Lastly, independent claim 23 recites the creation of a color image (a useful, concrete, and tangible result) corresponding to a black-and-white image embedded with chrominance information.

Accordingly, in view of the amendments and remarks set forth above, the Examiner is respectfully requested to reconsider and withdraw the rejection under 35 U.S.C. §101.

CONCLUSION

Accordingly, in view of the amendments and all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the present objections and rejection. Also, an early indication of allowability is earnestly solicited.

Respectfully submitted,



Michael J. Nickerson
Registration No. 33,265
Basch & Nickerson LLP
1777 Penfield Road
Penfield, New York 14526
Telephone: (585) 899-3970 Ext. 105
Customer No. 37211

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